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ABSTRACT

The results of studies of English adverb usage undertaken by Swedish university students participating in a research and writing skills program are summarized. The studies focus on the incidence of structural and semantic types of adjuncts used in two samples of spoken and written British English. Frequency distributions are charted and accompanied by a narrative analysis. The research projects have produced insights into the frequency and types of adjuncts used. Similar research into this and other adverb types would be useful. (MSE)

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IS THERE AN ADVERBIAL IN THIS TEXT (AND IF SO, WHAT IS IT) (DRAFT NUMBER)?

### 1. Introduction

This paper is a preliminary report on a pilot study concerning the frequency and types of adverbials – semantic and structural – in two samples of spoken and written contemporary British English. It was carried out within the framework of the research project *English in Speech and Writing*, and undertaken in part as a pedagogical experiment whose aim was to increase the productivity and writing skills of Swedish third-year undergraduates in the English department of Uppsala University. (Cf. Tottie et al. 1981,) the pedagogical aspects of the experiment are accounted for elsewhere in this volume (Atteneberg & Tottie). In what follows, I shall concentrate on the outcome of the scholarly endeavours of my students in the area of English adverbial usage. Of necessity, my goals were limited – firstly, by the amount of time allotted to the writing of term papers, and secondly, by the lack of sophistication of my aspiring but inexperienced assistant investigators.

The impetus of this work was David Crystal's article "Neglected grammatical factors in conversational English", published in 1970 in *Studies in English Linguistics* for Randolph Quirk. Crystal's main point in this article is that careful empirical study of specimens of spoken language will prove certain grammatical factors to be "rather more central" notions than is usually pointed out in linguistic accounts (cf. op.cit., p.161).

One of the "neglected categories" pointed to by Crystal is the class of adverbials, and he demonstrates their importance in terms of frequency and integration into clause structure, in a specimen of surreptitiously recorded spontaneous conversation.<sup>1</sup> Crystal shows that in his sample containing 420 clauses, 246, or 59%, contain an adverbial. If introductory clauses of the type He said... are excluded, the proportion rises to 66%. Crystal also shows that 170/420, or c. 40% of the clauses have adverbials that are either syntactically or semantically obligatory, whereas the adverbials are optional only in about 20%. These proportions conflict with the usual treatment of adverbials in grammars, where they are mostly treated as optional elements of clause structure. On the basis of his findings, Crystal suggests that Eng-

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English clause structure would be better described by means of a rule of the form:

Clause → V + NP + AP

with optional deletion of the adverbial phrase, than by the standard formulae not including APs.

The problem with Crystall's article is that although he convincingly shows the importance of adverbials in informal domestic conversation and thus amply supports the case for empirical study, there is no comparison with written material and thus no basis for a claim that adverbials = or indeed other grammatical factors = are more central in speech than in writing. Such a claim seems implicit in the title of the article. A comparison with written English is obviously imperative if we wish to substantiate either the claim that adverbials are more important in general in terms of frequency and integration into clause structure, or that they are more important in conversation than in written language.

Although there are many treatments of adverbs and adverbials in terms of semantic type, placement, etc., very few quantitative studies have been carried out.<sup>3</sup> Ellégård 1978, in his study of the syntactic structure of a 120,000-word subset of the Brown Corpus of American English, does provide some interesting quantitative data, which can be summarized as in table 1:

	Type of adverbial	Major clauses	Sentence	Marker	All categs
Per 100 clauses	Clausal	13,9	-	,7	14,1
	Non-clausal	56	6,4	6,5	68,9
	<b>Totals</b>	<b>69,9</b>	<b>6,4</b>	<b>6,7</b>	<b>83</b>
Per 1000 words	Clausal	19,4	-	,3	19,7
	Non-clausal	78,6	8,9	9,0	98,2
	<b>Totals</b>	<b>98</b>	<b>8,9</b>	<b>9,3</b>	<b>116,2</b>

Table 1. The frequency of adverbials in 120 000 words of journalism, popular fiction, literary essays, and scientific text (in equal proportions) taken from the Brown Corpus. Cf. Ellégård 1978:31, 40 and 42, tables 9A, 15A and 15B.

Table 1 shows that there is, in Ellégård's material, an average of 64,9 non-clausal and 14,1 clausal adverbials per 100 clauses, or in all, 83 adver-

bials per 100 clauses. At first glance, then, it would seem as if there are, if anything, more adverbials per clause in written than in spoken material - of the 59 + 66 recorded by Crystal, but the comparison is problematic: first of all, Crystal speaks only of clauses that "contain an adverbial" (1980:161), but does not specify whether he means just one adverbial, or at least one adverbial, and of course there is no way of telling how the adverbials in Ellégård's material are distributed. Another problem is the heterogeneity of Ellégård's material, which contains one-quarter fiction with some conversational passages. Probably of less importance is the fact that Ellégård's written material consists of American English, although ideally of course, specimens of the same variety should be compared. In spite of these problems, however, Ellégård's data can certainly be interpreted as supporting the hypothesis of the "importance" of adverbials in written as well as spoken English.

Another interesting question about which little seemed to be known was the relation between adverbial meaning and structure. Quirk et al. (1972:120), after pointing out that adverbial functions can be realized by a range of structures, go on to say: "Although it is true that some adverbial functions can be realized by the whole range of structures, others are chiefly realized by only certain structures." However, although there are scattered references to the quantitative relationship between the function and form of adverbials (esp. pp. 420f., 471, and 753), Quirk et al. give no precise statements concerning frequencies of types, and nothing is said about differences between spoken and written English.

If we wish to study the distribution of structural and semantic types of adverbials in conversation and written English, we get no help from Crystal, this being outside the scope of his article, and only limited information from Ellégård, who provides only the distinctions shown in Table 1, viz. into clausal and non-clausal, and into major, sentence, and manner adverbials. Gustafsson 1982, who works with exactly the same material as Ellégård, provides a detailed subclassification of adverbials into semantic and functional categories based on Quirk et al. 1972, ch. 8, but as Gustafsson's concern is with topicalization, she gives data on fronted adverbials only, and we cannot assume that the same distributions hold for fronted adverbials as for adverbials in general.

It thus seemed worthwhile to make a comparative study of adverbials in spoken and written English with regard to their frequency and the distribution of structural and semantic types. Spontaneous conversation and informative prose were chosen as prototypical of each variety (cf. Tottie et al. 1983: 4f.). British English was chosen as the target variant because of the availa-

bility of the London-based corpus of spoken English (LSE) and the London-based Oslo Bergen Corpus of written English (LBC), the particular texts used for this study were taken from the "Münz" corpora selected for the research project English in Speech and Writing (see Buttig 1963:12 and 80). The research was organized to fit into a one-term undergraduate seminar in the Department of English at Uppsala University (cf. Alstrand & Buttig, this volume), where each student was to spend five weeks (4-6) on their papers, each student analyzed both ways of spoken English and two ways of written English. At the moment of writing, five students have completed their work, and the material to be accepted for publication follows this covers 30,000 words, or 25,000 words of each variety, drawn from the following texts:<sup>4</sup>

- (1) S.1.1, 1.7, 1.6, 1.9, 1.11
- (2) B-texts (Press: editorial) 63, 67, 69, 15, 17
- C-text (Press: reviews) 61
- F-texts (Popularlore) 61, 21, 11
- G-texts (Belles lettres, biography, essays) 61, 63, 17, 23

The classification of adverbials is an overwhelming task even to experienced linguists, and in order to make the undertaking at all feasible to my students, I had to make a number of simplifications. We based our classifications mostly on Quirk & Greenbaum 1973, with some adjustment of the typology of Svartvik & Sager 1976, those being the grammars that the students were familiar with. Like Crystal and Ellegård, we limited our investigation to cover adverbials as clause constituents, excluding modifiers. Thus, examples of type (1) were included, but not those of type (2):

- (1) He frightened me terribly
- (2) I was terribly frightened

However, comparative clauses were regarded not as modifiers but as adverbials, in contrast to Ellegård (1970:50) and Quirk et al (1972:753). Adverbial particles as parts of phrasal verbs were not included.

We decided to count disjuncts, conjuncts and adjuncts, but to make a detailed study only of the adjuncts. This category was further subclassified into the semantic categories of place, time, process (including manner and instrument adverbials as well as subject adjuncts), and degree. To these we added a ragbag category of 'other adjuncts', OAs for short, a cover term for adjuncts of purpose, cause, concession, comparison, and a small number of really difficult cases. This measure was adopted partly out of necessity, partly because these types were not numerically significant if taken indi-

Adverbially, the clause ad-type was classified as a dependent and explicitly defining the adjective test (either *ad* or *adv*), but with the exception of one exception, all the other adverbs were classified as either *adverbial* and *adverbial*, that are distributed along the three categories.

The resulting classification can be summarized as in Fig. 1.

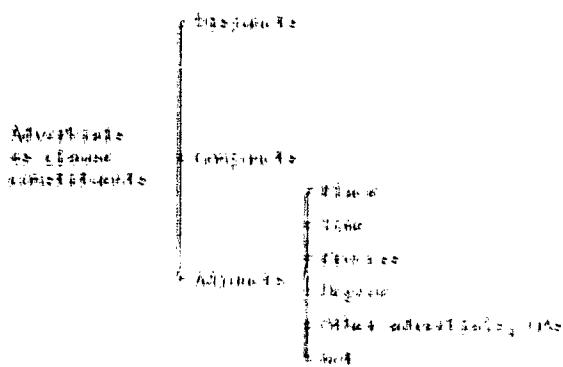


Fig. 1. Classification of advertisements.

The classification into structured types was made according to Quirk et al. (1972) into the six types listed below with the illustrations that will be used and examples:

AT	Adverbial phrase	before
PT	Prepositional phrase	in London
NP	Name phrase	the 15 year
TC	Finite clause	when we talk
NK	Non-finite clause	having said this
NC	Non-clausal clause	happily again, he smiled

One of the greatest problems we faced was choosing the unit of analysis against which to relate the frequency of advertisements. Crystal, an experienced linguist working with a very limited material, analyzed his specimens of conversation into clauses. We would have liked to follow suit but had to abandon the procedure simply because the students found it so difficult to make decisions concerning the spoken material that achieving any kind of uniform clausal analysis of our much larger material would have taken up too much of the available time. Instead, we had to resort to the method of relating the occurrence of advertisements to the total number of words examined, this is an expedient measure, and interesting yet so, but it tells us nothing of the ratio of advertisements per clause.

Another problem was to decide how to count advertisements. Our policy was then

to predict or many be predictable; thus, in (2), one could defend the analysis of *an a* as a *left* or *either* one or two adjectives, with the latter effect as a proportional jointness of *left*, or as an independent intensifier.

(2) *the* *hot* *heat* *an* *a* *left* *adjective*.

The two adjectival analyses were chosen without a preference, as in which one was held more firmly. Cf. (3).

(3) *the* *heat*, *the* *hot* *heat* *an* *a* *left*,

considering intensifiers whose weight varied as two adjectives, or as (2),  
as the *intensified* *adjective* and *superlative*.

If there was evidence of a proportion in a joint or coordinated intensifier,  
they might count as one, however. Cf. (4).

(4) *the* *heat* *an* *the* *middle* *and* *intensified*.

Not surprisingly, we find difficulties in distinguishing between proportion-  
al intensifiers and adjectives. As suggested the *intensified* and *superlative* are  
equivalent to *any* *left* and *last* *intensifier* in this theory, and substitution of a  
prohibited note often had to be *not* possible. Thus, of the following sentences, we  
classified (3) and (5) as proportional adjectives, but (6) and (7) as adjectives.

(5) *the* *extreme* *age* *according* *to* *the* *subject*

(6) *the* *coordinated* *age* *existed* *for* *a* *much* *smaller* *area*

(7) *The* *argument* *settled* *upon* *design*

(8) *They* *settled* *upon* *a* *bill*

The rationales for our decisions were that (4) and (5) have a clearly speci-  
fied meaning that (3) and (6) do not.

Another source of difficulty was expressions with *as*, *like*, and *than*, often  
giving a relative nature of different types of construction (MILROY 1973) pre-  
cluding these items proved a useful basis for our work.

## 2. Results

### 2.1. The frequency of adjectives

The total frequency of adjectives of all types, concrete, descriptive, and  
adjective (*not* being accounted for separately) in the spoken and written sam-  
ples (S and W) is shown in Table 1.<sup>3</sup>

We see that the total number of adjectives is higher in S than in W: 312  
in 2220, or 14%, vs 49,5 per 1000 words. Descriptive are much more frequent  
in S than in W: 262 vs 7%, or 11,3 vs 1 per 1000 words. This is not surprising

	Compound adverbs	disjunctive adverbs	Adverb and ad- verb	Adv.	Adv.
S texts	455	295	585	335	585
Language models	8.2	11.5	10.8	11.5	12.5
M texts	455	25	480	315	525
Language models	5.2	2	5.6	3.8	4.2

Table 3. Average frequencies of different types of adverbs per 1000 words (text).

and, unadorned disjunction such as *however*, *therefore*, etc., showed the greatest rates but hardly any writing. Similarly, the mean higher frequency of *and* in S than in M was considerably less than for *but*. The reasons for this are likely to be that *and* was more common in the presentable reading and that there were many more adverbs in S than in M (515 compared with 501 in M). While this might be true of the frequency of adverbs in juxtaposed or adverbials in general, it would be difficult to say, but it seems plausible that the number of adverbs in the S material is higher than in M - we know that certain Englishes, particularly some vernacularised Englishes, contain fewer than the standard English (cf. e.g. these tables). We may therefore guess that the number of juxtaposed or adverbial *but* words is lower in S than in M, but attending these variables, and therefore, that the adverbial *but* clause rates may not be as different in S and M as the rates of adverbials per 1000 words, that is clearly unclear where these figures ought to stand before we can establish the facts.

We may compare the findings of the present study with those presented by Ellingsen 1976 and Crystal 1980. Our total figure for adverbs in M is 775, or 10.5 per 1000 words, compared with Ellingsen's 116.2 average, it is difficult to explain the discrepancy between Ellingsen's average and ours, to some extent it can be accounted for by the presence of category A texts (periodicals) in Ellingsen's sample. A texts have a much higher incidence of *either* (nearly 100%) adverbials than the other categories (cf. Ellingsen 1976), and A2, B2, C2, D2, E2, and F2, the A texts have 137.9 adverbials per 1000 words, whereas the frequencies for the other text categories are considerably lower: A texts 102.7, C texts 117.7, and D texts (newspaper and magazine writing) 107 adverbials per 1000 words. Our sample contained about one-half periodicals (category A and C but not category D), and the rest are E and F texts, it might therefore perhaps have been expected to fall somewhere between 102 and 117 adverbials per 1000 words, or around 110. I cannot

in contrast against the distribution in Japanese, we find that the same pattern applies in English in that we find that most adjectives are placed outside the pluralized noun. One possible reason of the distribution of the adjectives is the grammatical object and adverbials, where we may have more freedom than in occupying the final adverbial slot (Adverbial tail, and Adverbial head), the possibility of which being a great difference in the capacities of natural languages.

A comparison between our English data and Chayes' (1970) American data reveals a similar pattern: the percentage of adjectives put before other non-grammatical words, the percentage that has simple examples of the function of nominalization (adverbial), and the type of constructional regularity (mostly the Rhotic cluster (the r-group) or an enclitic bound to the verb). In Chayes' (1970) sample, 55.1% of the simple examples consist of a verb-noun, 26.1% adjectives + a verb-noun example + the verb-noun phrase, + some r-groups from one to three words. This distribution could be due in part to the fact that English does not provide extensive opportunities for adverbializing the arguments, and in part to the low verb potential for occupying the initial adverbial or prepositional function of the distribution of the adjectives. Also, it is not about whether English speakers put an adjective. A comparison with Chayes' general findings is complicated, however, as they did not explicitly go beyond the scope of the present day.

The distributional conclusions can definitely be drawn from the above mentioned example of comparative distribution between two sets of data. However, we can hardly cite one of the most relevant substantiated categorizations, defined in the study of word classes, and comprehend the situation that occurred in English, nor will this come within the scope of this paper.

Let us proceed to consider the importance of different and different types of adjectives in our own material.

### 2.2. The occurrence of nominal and structural types of adjectives.

Table 5 gives a presentation of the results of nominal and structural types of adjectives in our material, spoken as well as written. It gives the figures as well as frequencies of structural and nominal categories per 1000 words.

If we wish to compare the distribution of nominal categories of structuring types of adjectives (see 2. 2. 1), we can choose between two different measures, the total relative frequency and per 1000 number of words, e.g. 1000 words as suggested above, or we can compare different kinds of distributions, namely the frequency in percentages. The former measure is in absolute terms in Table 5.

	Distance	Group	Proportion	Proportions	Rate	Rate	Rate/ relative risk
M	0-62	55.2	41.8	0.04	0.02	0.016	0.2-0.6
TH	0-62	44.1	30.0	0.03	0.01	0.009	0.2-0.6
WT	0-62	42.2	29.2	0.03	0.01	0.009	0.2-0.6
S	inc	6.0	2.0	2	0.00	0.000	0.000
NHC	st	4	4	0	0.00	0.00	0.00
WNC	st	2	2	0	0.00	0.00	0.00
ED	0-62	56.2	41.4	0.03	0.02	0.017	0.2-0.6
Dissemination methods	0-62	29.2	21.2	0.03	0.01	0.013	0.2
WT	40	40.8	28.8	0	0.00	0.000	0.2-0.6
TH	0-62	41.9	30.0	0.03	0.01	0.009	0.2-0.6
WT	2	4.9	0.0	0	0.00	0.00	0.00
ED	2	4.9	0.0	0	0.00	0.000	0.000
NHC	3	3.9	0.0	0	0.00	0.000	0.000
WNC	1	2	0	0	0.00	0.00	0.00
ED	0-62	57.2	41.6	0.03	0.02	0.017	0.2-0.6
Dissemination methods	0-62	29.2	21.2	0.03	0.01	0.013	0.2

What other measures of the distribution of mortality among the elderly might be of interest? The first is the death rate, the second measure is a proportionate of the total distribution of mortality according to age, and a third measure entirely, death measures are distributed among which one we often depends on our judgment. I have given death measures in tables 8 and 9 that add up to proportions on the basis of which distributions are based on frequencies and likelihoods with some data and those in the tables.

Table 8 shows the distribution of somatic ciliogenesis over the two categories of S and R in the present study sample. Thus individuals exhibiting the most frequent type of hair ciliogenesis (55% in S, 71% in R), clearly distinguished by their ultrastructure (27% in S, 37% in R), together, those types make up some 80% of the subjects in either category. However, no definite ultrastructural signature emerged for either S or R in each sample, and no distinct proportionality in S, there are 20 percent and 30 percent ciliogenesis, whereas in R, there are 22

	Topics	Mean	Standard deviation	Minimum	Maximum	SD%	N%
<i>Adolescent gender</i>							
S	Male	21.2	21.2	9.8	41.9	0.8%	0.8%
S	Female	20.9	20.9	10.0	40.0	0.7%	0.7%
<i>Adolescent gender</i>							
M	Male	21.1	21.1	9.8	41.9	0.7%	0.7%
M	Female	20.8	20.8	9.8	40.0	0.7%	0.7%

Table 2. The frequencies and proportions of responses of adolescents

Figure 2. The frequencies and proportions of responses of adolescents in Book 1 and Book 2.

adolescents and 23 female adolescents. The frequencies, SD% and SD% N%, are made up of the positive, negative, neutral, questioning, answer, contradiction, and neutral contradictions, etc.

	W	H	W	H	W	H	SD%	N%
<i>Adolescent gender</i>								
S	Male	22.0	20.9	9.0	40.0	0.8	0.8	0.8%
S	Female	21.8	20.8	10.0	40.0	0.8	0.8	0.8%
<i>Adolescent gender</i>								
M	Male	22.0	21.1	9.0	41.9	0.8	0.8	0.8%
M	Female	21.8	20.8	10.0	40.0	0.8	0.8	0.8%

Table 3. The frequencies and proportions of extracted topics of adolescents in Book 1 and Book 2.

Table 3. The frequencies and proportions of extracted topics of adolescents in Books 1 and 2.

Table 3 shows the frequency and proportions of the extracted topics of adolescents in Books 1 and 2. Again, two topics are problems about sex in their own culture and proposed sexual pleasure. Specifically, they account for 7% of all the extracts in either version, with the former making up 5.1% and the latter 1.9% (N=221). The remaining 93.8% of the extracts are sex topics, and the dominating one (37.1% or 221/595), and the dominating one (37.1% or 221/595), the proportion of sex are much down to 37.1% in Book 1 and 27.1% in Book 2. Our data thus fully bear out the statement by Gough et al. (2007, 2011) that sex is "less common" or "predominance of adolescent than sex, female culture account for 22% of the extracts about sex and adolescent culture for only 2% in S and 3% in M. Therefore, female gender extracts extracted = Male gender extracts for those topics it is not often reported, say, 2% in S and 2% in M. These topics may encompass the proportions of extracted topics in S and M are suggested

May 24 1968 at 4:00 p.m. during the 2nd Annual Meeting of the Society of Diagnostic Radiology

Detta är därför inte tillräckligt att bara hävda att tekniken är tekniskt korrekt, utan det krävs också att försöka förstå varför tekniken är tekniskt korrekt och att försöka förstå varför tekniken är tekniskt felaktig. Detta kräver att man har en god teknisk förståelse och att man kan försöka förstå varför tekniken är tekniskt korrekt och att försöka förstå varför tekniken är tekniskt felaktig. Detta kräver att man har en god teknisk förståelse och att man kan försöka förstå varför tekniken är tekniskt korrekt och att försöka förstå varför tekniken är tekniskt felaktig. Detta kräver att man har en god teknisk förståelse och att man kan försöka förstå varför tekniken är tekniskt korrekt och att försöka förstå varför tekniken är tekniskt felaktig. Detta kräver att man har en god teknisk förståelse och att man kan försöka förstå varför tekniken är tekniskt korrekt och att försöka förstå varför tekniken är tekniskt felaktig.

Figure 3. The relationship between the number of patients with HCV and the number of patients with hepatitis C.

We conducted one to three sets of trials, with each trial involving one group of trained pigeons (either 20 or 25 birds), 10 males, 10 females, 10 immatures, 10 nonimmature, 10 older & younger individuals from each category, 20, 25, and 30 days old in 5 and 10% air R. Gulls in all trials were either exposed to a resting bird placed adjacent to the "lure" (experimental), however, although only 4-5% were retained in 2, and 5-7% in R. Adult pigeons showed no significant preference between experimental gulls and lures, while 50% in 2 and 45% in R. The pigeons are retained in 20 air R (and the corresponding 20% adult gulls) by 20%, so probably due to the tendency to use olfactory, with no visual, cues, as pointed out in the 20 air R studies). Similarly, the retention rate is about 40% when the stimulus consists of 25 air S and 25 air R.

ৰাজা কৃষ্ণের সন্মতিপূর্বক, ন কোথা কোথায় কৈ কুই কুই কুই কুই কুই কুই কুই কুই কুই

selection from text S.1.1): 45% in S, 42% in W. Prepositional phrases (like at the moment, after that, from the twenty-ninth of June, to the eighth of July /S.1.1/) are runners-up: 24% in S, 30% in W. Noun phrases (next year, last Wednesday, this week... /S.1.1/) are proportionately more frequent in S than in W: 20% vs 7%. Finite clauses account for low but similar proportions in S and W: 10% vs 9% (cf examples like when we were setting that kind of question /S.1.1.1176/, while those questions survive /S.1.1.1071/...). Non-finite clauses are, again, unusual in both varieties, though proportionately more frequent in W (4%) than in S (1%). Verbless clauses are at the bottom of the list: .4% in either variety.

About 85% of all process adjuncts are realized by either adverb phrases (like voluntarily, heavily, sharply, effectively... /B15/) or prepositional phrases (like by means of restrictions, without racial discrimination, with an air of triumph... /B 15/) in S as well as in W. APs are in the majority in both varieties, although in somewhat different proportions (61% APs in S, 49% in W, compared with 27% PPs in S, 37% in W). All other structural types are represented, noun phrases and non-finite clauses being more common than finite or verbless clauses (6% NPs in S, 5% in W, 4% NFCs in either variety).

Adjuncts of degree are mostly realized by adverb phrases in S as well as in W (83% and 79%, respectively), the rest being mostly prepositional phrases (7% in S, 17% in W) and noun phrases (9% in S, 3% in W). Clausal degree adverbials were almost entirely absent: only a single instance (1%) occurred in W.

The "other adjuncts" are mostly realized by either adverb phrases or finite clauses (38% APs in S and 32% in W, 41% FCs in S, and 33% in W). The proportion of prepositional phrases is about the same in S and W (12% and 13%, respectively). NPs are rare: 1% in S and 4% in W. If we look at the total of clausal OAs, including non-finite and verbless clauses, we see that they account for 48% of all OAs in S, and 50% in W. There is thus a strong - and expected - correlation between the semantic category of adjuncts expressing cause, concession, condition, and comparison, and clausal form.

This correlation is brought out even more strongly by table 7, which shows the proportions of semantic categories distributed over the structural types of adjuncts. Again, the reader is referred to table 3 for actual frequencies. Table 7 shows that finite clauses are used almost exclusively as either time adjuncts or as OAs (30% vs 65% in S, 21% vs 71% in W). Typical examples are if he lives to see his Utopia come true, once the British employment market begins to reach saturation point /B 15/. Non-finite clauses are used as time and process adjuncts, but occur especially in OA function (18%, 20%, and 60%,

	AP		PP		NP		PC		NFC		VLC	
	S	W	S	W	S	W	S	W	S	W	S	W
Place	22%	11%	63%	59%	10%	11%	4%	1%	2%	6%	-	1%
Time	32%	32%	22%	20%	70%	48%	30%	21%	18%	21%	27%	13%
Process	12%	23%	7%	13%	6%	16%	1%	5%	20%	12%	18%	13%
Degree	20%	11%	2%	2%	11%	4%	-	.5%	-	-	-	-
OAs	14%	23%	6%	7%	2%	21%	65%	71%	60%	61%	55%	69%
n	1096	619	841	841	220	85	262	202	45	101	11	16

Table 7. The distribution of semantic categories over structural types of adjuncts in S and W.

respectively, in S, and 21%, 12% and 61% in W). When set beside the existing structure /B 07/, by asking us to value old music /G 42/, and ... the liquidation of the firm to pay death duties /B 07/ are examples from our corpus. Similar proportions hold for verbless clauses (27% time, 18% process, and 55% OAs in S, compared with 13% time, 13% process, and 69% OAs in W). It should be remembered, however, that the total number of verbless clauses is very low, which means that these proportions must be regarded with some caution.

If we look at the other structural categories, we see that adverb phrases are the most versatile type: although they mostly function as time adjuncts (32% in S as well as in W), they occur in between 10 and 20% in all functions; cf. table 7 for details. Prepositional phrases and noun phrases, on the other hand, each favour one particular semantic category: PPs occur mostly as realizations of place adjuncts (63% in S, 59% in W), and much less frequently as any other type. Time adjuncts (22% in S, 20% in W) are the most frequent ones among the other categories, and except for 13% process adverbials in W, there is a mere sprinkling (2 - 7%) of the other types.

Noun phrases occur mostly as time adjuncts, this tendency being most pronounced in S (70%, compared with 48% in W) and obviously due to the abundance of expressions like next week, this afternoon, this year, etc. (This is corroborated by research at the Survey of English Usage; Randolph Quirk, personal communication.). NPs also serve as place adjuncts in similar proportions in S and W (10% vs 11%). The other semantic categories are realized by NPs to very different extents: There are 6% process adjuncts in S but 16% in W, 11% degree adjuncts in S but 4% only in W, and 2% OAs in S, but 21% in W. Notice, however, that the W proportions here are based on a much lower

number of instances than S, or 85 vs 220, and that the percentages may therefore be somewhat uncertain.

### 3. Conclusions and prospects

We may sum up the results of our investigation as follows: In our two samples of 25 000 words each of spoken and written English, S and W, adverbials were more frequent in S than in W: 156.5 per 1000 words in S, compared with 89.5 in W. At least in part, this difference could be due to the higher incidence of disjuncts and negative expressions in S. Table 2 shows that the frequency of not is higher in S than in W, and we have reason to suspect that other negative expressions are also more frequent in S than in W - cf Tottie 1982:89f. Whether there are also more adverbials per clause in S than in W remains to be established, pending a breakdown of our material into clauses.

The proportions of structural and semantic types are mostly similar in S and W, but there are some differences. Adverbs and adverb phrases and prepositional phrases are the most common types in S as well as W, together accounting for almost 80% of all adjuncts in either variety, but APs dominate in S (44%) and PPs in W (45%) - cf table 5. Finite clauses represent 11% of the total in S as well as in W; NPs are more important in S (9%) than in W (5%). Non-finite and verbless clauses occur in low proportions (5% or less) in both varieties, but are twice as frequent in W as in S (cf table 5). These findings are supported by ongoing research at the Survey of English Usage (Randolph Quirk, personal communication).

Most adjuncts express location in time or space (about 60% in both varieties), place adjuncts being somewhat more frequent than time adjuncts. Process adjuncts are more important in W (15%) than in S (9%), whereas the reverse is the case with degree adjuncts. Expressions of cause, concession, condition, etc, account for c 17% of the adjuncts in either variety. As Crystal points out (1980:165), these data may be compared with studies concerning language acquisition by children, where expressions of time and, especially, place are shown to be acquired at an early stage. The studies quoted by Crystal are supported by Strickland 1962 (English) and Valiquette 1978 (French), quoted by Dubuisson et al 1981. The need for "locating language in time and space" is obviously present from an early stage and continues to make itself felt in adults.<sup>7</sup>

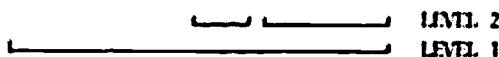
As I stressed at the outset, this is a preliminary report. The time limitations imposed on our study precluded an exhaustive analysis even of those adverbials, i.e. the adjuncts, that we paid most attention to, and the material we already have at hand would certainly yield valuable insights if examined more closely. The most obvious target for further research would of

course be the motley category of "other adverbials", which needs to be broken down into more well-defined semantic types. It would be particularly interesting to study the distribution of the various clausal OAs to ascertain the frequencies of causal, conditional, and concessive relations in spoken and written language (to the extent of course that these relations are expressed by means of adverbials, clausal or not).<sup>8</sup> A detailed examination of the adjuncts of time, place, process, and degree would certainly also be rewarding. Within the limited space at my disposal here, it has only been possible to account for structural types in the most general terms of frequencies and proportions, and to illustrate these by thin sprinklings of actual linguistic examples. It would presumably be revealing to study the actual lexical items which constitute these structures to determine important semantic substructures. Thus it is obvious that e.g. place adjuncts can be divided into different types expressing either location at a point in space or direction to or from one, and it would certainly be interesting to find out how these types are distributed in spoken and written language, as well as the proportions and types of deictics (here, there) vs more specific adverbials (on the table, in London). A number of the items classified as place adjuncts also seem to have a "metaphorical" or abstract meaning, e.g. at this point, in this connexion. It would be interesting to know the extent to which such expressions occur, as well as possible differences between spoken and written language.

Finally, we left the major categories of disjuncts and conjuncts unaccounted for - a closer look at these would certainly be rewarding.

In addition to studying types of adverbials in detail, it would also be interesting to know what proportion of written or spoken text is likely to consist of adverbials. The preceding account has only dealt with adverbials in terms of the frequency of individual items, but not with their length. We did keep track of this factor, however, and moreover, we classified adverbials at different "levels". Adverbials are frequently embedded in other adverbials, as in (11):

- (11) After finishing early that Monday, John left.



It would be vacuous and misleading to state merely that this seven-word sentence contains eight words of adverbials (which it does, counting the when-clause, early, and that Monday as separate units). We therefore decided to classify adverbials at two levels (cf. Ellegård's notion of "depth", 1978:26 ff), level one consisting of adverbials not contained in other adverbials, and level two comprising adverbials within adverbials. When we analyze these data,

we will be able to establish what proportion of the total amount of text consists of adverbials by including only level one items.

What I have been able to show in this article is thus merely the tip of an iceberg. However, I am confident that further empirical research in the area of adverbial usage will prove fruitful and yield insights both into the workings of the English language as a whole, and of spoken and written varieties. These insights promise to be of linguistic, pragmatic, and psychological interest, increasing our knowledge of usage and use and giving us information concerning the constraints on language production and processing in different communicative situations.

#### NOTES

1. I am grateful to Professor Randolph Quirk for reading an early draft of this paper and then graciously giving me access to some unpublished results of ongoing research at the Survey of English Usage, University College London, concerning adverbial usage. I am also deeply indebted to Bengt Altenberg for penetrating comments on many vital points, and for interesting discussions of method as well as matter. Most of all, I wish to thank my students, Monica Berggren, Christina Carlsson, Marie Fagerberg, Karin Hammarstig, Marita Johansson, and Ann-Charlotte Sandberg, for contributing enthusiasm and hard work to this project. Any remaining inadvertencies are my own responsibility.
2. The material used consists of texts 1, 3, and 8 from Crystal and Davy 1975, a total of thirteen minutes of conversation. After removing 120 minor sentences and comment clauses, Crystal was left with 420 clauses to analyze for the purposes of his 1980 paper. Cf Crystal 1980:156, fn 2.
3. See e.g. Bartsch 1972, Greenbaum 1969, Jacobson 1964 and 1978. Kramský 1975 examines the frequency of occurrence of adverbs in fiction, plays and "special" (i.e. scientific) style but attempts no full coverage of the functional category of adverbials.
4. LIC texts are 5000 words long, LOH texts 2000 words long. Only the first half of 8.07 was included.
5. S and W refer to the samples used for this study, and the terms spoken and written English are used for general reference. Although it is difficult to make explicit claims concerning the representativity of our corpora or subsamples, it seems reasonable to assume that extrapolation from our samples is possible.
6. Notice that the frequencies per 1000 words given for negatives in Tottie 1982 are higher than the not frequencies in table 2 because they comprise a wider range of items.
7. The fact that Dubuisson et al 1981 found a majority of manner adverbials in their elicited French data must be due to the fact that they asked their subjects to write down rules for games.
8. Many of these relations can of course be expressed by other means, e.g. parataxis. Cf Altenberg, in press.

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